Exploring Aeronautics				
2004 Mathematics Curriculum Standards				
Kansas Mathematics				
Grade 5				
Activity/Lesson	State	Standards		
Activity/Ec33011	Otate	Otanidards	recognizes a simple event in an experiment or	
Tools of			simulation where the probabilities of all	
Aeronautics(257-326)	KS	MA.5.4.1.K3	outcomes are equal.	
7101011441105(201 020)	T.O	1717 1.0.4.1.110	lists all possible outcomes of a simple event in	
The Tools of			an experiment or simulation in an organized	
Aeronautics	KS	MA.5.4.1.K2	manner including the use of concrete objects.	
riororiaatioo	110	100.1.1.1.12	recognizes a simple event in an experiment or	
The Tools of			simulation where the probabilities of all	
Aeronautics	KS	MA.5.4.1.K3	outcomes are equal.	
7.0.0			demonstrates number sense for integers,	
			fractions, decimals, and money in a variety of	
The Resource Center	KS	MA.5.1.1.K2.a	situations; compares and orders integers,	
			plots and locates points for integers (positive	
			and negative whole numbers) on a horizontal	
The Resource Center	KS	MA.5.2.3.K5	number line and vertical number line.	
			knows, explains, and uses mathematical models	
			to represent mathematical concepts,	
			procedures, and relationships. Mathematical	
			models include (process models (concrete	
			objects, pictures, diagrams, number lines,	
			hundred charts, measurement tools,	
			multiplication arrays, division sets, or coordinate	
			planes/grids) to model computational	
			procedures and mathematical relationships and	
The Resource Center	KS	MA.5.2.4.K1.a	to solve equations)	
			knows, explains, and uses mathematical models	
			to represent mathematical concepts,	
			procedures, and relationships. Mathematical	
			models include (place value models (place value	
			mats, hundred charts, base ten blocks, or unifix	
			cubes) to compare, order, and represent	
			numerical quantities and to model computational	
The Resource Center	KS	MA.5.2.4.K1.b	procedures)	
			locates and plots points on a number line	
			(vertical/horizontal) using integers (positive and	
The Resource Center	KS	MA.5.3.4.K1	negative whole numbers).	
			determines and uses whole number	
			approximations (estimations) for length, width,	
			weight, volume, temperature, time, perimeter,	
			and area using standard and nonstandard units	
Science of Flight	KS	MA.5.3.2.K1	of measure.	
			computes with efficiency and accuracy using	
			various computational methods including mental	
Integrating with			math, paper and pencil, concrete materials, and	
Aeronautics	KS	MA.5.1.4.K1	appropriate technology.	

			recognizes ratio as a comparison of part-to-part
			and part-to-whole relationships, e.g., the
			relationship between the number of boys and
			the number of girls (part-to-part) or the
			relationship between the number of girls to the
Integrating with			total number of students in the classroom (part-
Aeronautics	KS	MA.5.2.2.K4	to-whole).
			plots and locates points for integers (positive
Integrating with			and negative whole numbers) on a horizontal
Aeronautics	KS	MA.5.2.3.K5	number line and vertical number line.
			knows, explains, and uses mathematical models
			to represent mathematical concepts,
			procedures, and relationships. Mathematical
			models include (process models (concrete
			objects, pictures, diagrams, number lines,
			hundred charts, measurement tools,
			multiplication arrays, division sets, or coordinate
			planes/grids) to model computational
Integrating with			procedures and mathematical relationships and
Aeronautics	KS	MA.5.2.4.K1.a	to solve equations)
			knows, explains, and uses mathematical models
			to represent mathematical concepts,
			procedures, and relationships. Mathematical
			models include (place value models (place value
			mats, hundred charts, base ten blocks, or unifix
			cubes) to compare, order, and represent
Integrating with			numerical quantities and to model computational
Aeronautics	KS	MA.5.2.4.K1.b	procedures)
Aeronaulics	NO	IVIA.3.2.4.K1.D	· · ·
			knows, explains, and uses mathematical models
			to represent mathematical concepts,
			procedures, and relationships. Mathematical
			models include (graphs using concrete objects,
			pictographs, frequency tables, bar graphs, line
			graphs, circle graphs, Venn diagrams, line plots,
Scientific Method(124-			charts, tables, and single stem-and-leaf plots to
144)	KS	MA.5.2.4.K1.j	organize and display data)
			collects data using different techniques
			(observations, polls, tallying, interviews,
Scientific Method(124-			surveys, or random sampling) and explains the
144)	KS	MA.5.4.2.K2	results.
111)	110	W// CO. 1.2.1(2	Todato.
		Exploring Aerona	autics
		2004 Mathema	
		Curriculum Stan	
Kansas Mathematics			
Grade 6			
Activity/Lesson	State	Standards	
<b>,</b>			organizes, displays, and reads quantitative
			(numerical) and qualitative (non-numerical) data
			in a clear, organized, and accurate manner
			including a title, labels, categories, and rational
Fundamentals of			
	I/C	MA C 4 O 1/4 -	number intervals using these data displays
Aeronautics (145-176)	[NO	MA.6.4.2.K1.a	(graphs using concrete objects)

			represents the probability of a simple event in an experiment or simulation using fractions and decimals, e.g., the probability of rolling an even
Tools of			number on a single number cube is represented
Aeronautics(257-326)	KS	MA.6.4.1.K4	by ½ or .5.
The Tools of Aeronautics	KS	MA.6.4.1.K4	represents the probability of a simple event in an experiment or simulation using fractions and decimals, e.g., the probability of rolling an even number on a single number cube is represented by ½ or .5.
			demonstrates number sense for integers, fractions, decimals, and money in a variety of
The Resource Center	KS	MA.6.1.1.K2.a	situations; compares and orders integers,
The Resource Center	KS	MA.6.1.1.K3	explains the relative magnitude between whole numbers, fractions greater than or equal to zero, and decimals greater than or equal to zero.
			knows, explains, and uses mathematical models to represent mathematical concepts, procedures, and relationships. Mathematical models include (process models (concrete objects, pictures, diagrams, number lines, hundred charts, measurement tools, multiplication arrays, division sets, or coordinate planes/grids) to model computational procedures and mathematical relationships and
The Resource Center	KS	MA.6.2.4.K1.a	to solve equations)
			knows, explains, and uses mathematical models to represent mathematical concepts, procedures, and relationships. Mathematical models include (place value models (place value mats, hundred charts, base ten blocks, or unifix cubes) to compare, order, and represent numerical quantities and to model computational
The Resource Center	KS	MA.6.2.4.K1.b	procedures)
			determines and uses whole number approximations (estimations) for length, width, weight, volume, temperature, time, perimeter, and area using standard and nonstandard units
Science of Flight	KS	MA.6.3.2.K1	of measure. selects, explains the selection of, and uses measurement tools, units of measure, and level of precision appropriate for a given situation to find accurate rational number representations for length, weight, volume, temperature, time,
Science of Flight	KS	MA.6.3.2.K2	perimeter, area, and angle measurements.
Science of Flight	KS	MA.6.4.2.K3	use sampling to collect data and describe the results.
Integrating with Aeronautics	KS	MA.6.1.1.K3	explains the relative magnitude between whole numbers, fractions greater than or equal to zero, and decimals greater than or equal to zero.

The Resource Center	KS	MA.7.1.1.K3	numbers and between rational numbers and the irrational number pi.
			explains the relative magnitude between rational
Aeronautics	KS	MA.7.4.1.K2	having probability of zero or one.
The Tools of			compound events in an experiment or simulation
,			explains and gives examples of simple or
Wings(177-208)	KS	MA.7.3.2.K6.a	uses given measurement formulas to find surface area of cubes,
Activity/Lesson	State	Standards	uses given measurement formulae to find
Grade 7	Ctoto	Ctonde	
Kansas Mathematics			
Vanaga Methamat		Curriculum Stan	naaras
		2004 Mathema	
		Exploring Aeron	
		Evolering Acres	Lautice.
144)	KS	MA.6.4.2.K1.c	line, and circle graphs)
Scientific Method(124-		NAA O 4 O 164	number intervals using these data displays (bar,
Onion4ifin M-411/404			including a title, labels, categories, and rational
			in a clear, organized, and accurate manner
			(numerical) and qualitative (non-numerical) data
			organizes, displays, and reads quantitative
144)	NO	IVIA.0.4.Z.N 1.D	(frequency tables and line plots)
Scientific Method(124-	KS	MA.6.4.2.K1.b	number intervals using these data displays
Scientific Mothod/124			
			including a title, labels, categories, and rational
			in a clear, organized, and accurate manner
			(numerical) and qualitative (non-numerical) data
,			organizes, displays, and reads quantitative
144)	KS	MA.6.4.2.K1.a	(graphs using concrete objects)
Scientific Method(124-			number intervals using these data displays
			including a title, labels, categories, and rational
			in a clear, organized, and accurate manner
			(numerical) and qualitative (non-numerical) data
			organizes, displays, and reads quantitative
144)	KS	MA.6.2.4.K1.k	to show relationships)
Scientific Method(124-			models include (Venn diagrams to sort data and
O-1			procedures, and relationships. Mathematical
			to represent mathematical concepts,
			knows, explains, and uses mathematical models
ACIONAUNOS	NO	IVIA.0.4.Z.N 1.1	
Aeronautics	KS	MA.6.4.2.K1.f	(single stem-and-leaf plots)
Integrating with			number intervals using these data displays
			including a title, labels, categories, and rational
			in a clear, organized, and accurate manner
			(numerical) and qualitative (non-numerical) data
, 101011441100		1417.0.1.7.1	organizes, displays, and reads quantitative
Aeronautics	KS	MA.6.1.4.K1	appropriate technology.
Integrating with			math, paper and pencil, concrete objects, and
			various computational methods including mental
7 toronautioo	110	1717 (10.11.0.11.1	computes with efficiency and accuracy using
Aeronautics	KS	MA.6.1.3.K1	objects, and/or appropriate technology.
Integrating with			mental math, paper and pencil, concrete
			using various computational methods including
			rational numbers and/or the irrational number pi
			estimates quantities with combinations of

			To
The December Conton	140	MA 7.4.0 K4	knows and explains the relationships between natural (counting) numbers, whole numbers, integers, and rational numbers using mathematical models, e.g., number lines or
The Resource Center	KS	MA.7.1.2.K1	Venn diagrams.
The Resource Center	KS	MA.7.2.4.K1.a	knows, explains, and uses mathematical models to represent and explain mathematical concepts, procedures, and relationships. Mathematical models include (process models (concrete objects, pictures, diagrams, number lines, hundred charts, measurement tools, multiplication arrays, division sets, or coordinate grids) to model computational procedures, algebraic relationships, and mathematical relationships and to solve equations)
			knows, explains, and uses mathematical models
The Resource Center	KS	MA.7.2.4.K1.b	to represent and explain mathematical concepts, procedures, and relationships. Mathematical models include (place value models (place value mats, hundred charts, base ten blocks, or unifix cubes) to compare, order, and represent numerical quantities and to model computational procedures)
			determines and uses rational number
Science of Flight	KS	MA.7.3.2.K1	approximations (estimations) for length, width, weight, volume, temperature, time, perimeter, and area using standard and nonstandard units of measure.
Gerenies er i ligiti			selects and uses measurement tools, units of
			measure, and level of precision appropriate for a given situation to find accurate rational number representations for length, weight, volume, temperature, time, perimeter, area, and angle
Science of Flight	KS	MA.7.3.2.K2	measurements.
			selects and justifies the choice of data collection techniques (observations, surveys, or interviews) and sampling techniques (random sampling, samples of convenience, or
Science of Flight	KS	MA.7.4.2.K2	purposeful sampling) in a given situation.
Integrating with			computes with efficiency and accuracy using various computational methods including mental math, paper and pencil, concrete objects, and
Aeronautics	KS	MA.7.1.4.K1	appropriate technology.
			knows and explains that a variable can
Integrating with			represent a single quantity that changes, e.g.,
Aeronautics	KS	MA.7.2.2.K1	daily temperature.
Integrating with			explains the difference between an equation and
Aeronautics	KS	MA.7.2.2.K4	an expression.

			knows the mathematical relationship between
			ratios, proportions, and percents and how to
			solve for a missing term in a proportion with
Integrating with			positive rational number solutions and
Aeronautics	KS	MA.7.2.2.K7	monomials, e.g., $5/6 = 2/x$ .
			knows, explains, and uses mathematical models
			to represent and explain mathematical concepts,
			procedures, and relationships. Mathematical
			models include (frequency tables, bar graphs,
			line graphs, circle graphs, Venn diagrams,
			charts, tables, single stem-and-leaf plots, scatter
Scientific Method(124-			plots, and box-and-whisker plots to organize and
144)	KS	MA.7.2.4.K1.j	display data)
			organizes, displays, and reads quantitative
			(numerical) and qualitative (non-numerical) data
			in a clear, organized, and accurate manner
			including a title, labels, categories, and rational
Scientific Method(124-			number intervals using these data displays
144)	KS	MA.7.4.2.K1.d	(charts and tables)
			selects and justifies the choice of data collection
			techniques (observations, surveys, or
			interviews) and sampling techniques (random
Scientific Method(124-			sampling, samples of convenience, or
144)	KS	MA.7.4.2.K2	purposeful sampling) in a given situation.
Scientific Method(124-			conducts experiments with sampling and
144)	KS	MA.7.4.2.K3	describes the results.
	 	 Exploring Aerona	autics
		2004 Mathemat	
	(	Curriculum Stand	dards
<b>Kansas Mathematics</b>			
Grade 8			
Activity/Lesson	State	Standards	
			uses given measurement formulas to find
			surface area of rectangular prisms, triangular
Wings(177-208)	KS	MA.8.3.2.K5.b	prisms, and cylinders
			knows, explains, and uses mathematical models
			to represent and explain mathematical concepts,
			procedures, and relationships. Mathematical
Tools of			models include (scale drawings to model large
Aeronautics(257-326)	KS	MA.8.2.4.K1.i	and small real-world objects)
			knows, explains, and uses mathematical models
			to represent and explain mathematical concepts,
			procedures, and relationships. Mathematical
The Tools of			models include (scale drawings to model large
Aeronautics	KS	MA.8.2.4.K1.i	and small real-world objects)
			compares and orders rational numbers, the
			irrational number pi, and algebraic expressions,
			e.g., which expression is greater –3n or 3n? It
			depends on the value of n. If n is positive, 3n is
			greater. If n is negative, -3n is greater. If n is
	KS	MA.8.1.1.K2	zero, they are equal.

			explains the relative magnitude between rational
The Resource Center	KS	MA.8.1.1.K3	numbers, the irrational number pi, and algebraic expressions.
THE RESCUES COME.			explains and illustrates the relationship between the subsets of the real number system [natural
			(counting) numbers, whole numbers, integers, rational numbers, irrational numbers] using
The Resource Center	KS	MA.8.1.2.K1	mathematical models, e.g., number lines or Venn diagrams.
			knows, explains, and uses mathematical models to represent and explain mathematical concepts,
			procedures, and relationships. Mathematical models include (place value models (place value
			mats, hundred charts, base ten blocks, or unifix
			cubes) to compare, order, and represent
The Resource Center	KS	MA.8.2.4.K1.b	numerical quantities and to model computational procedures)
			selects and uses measurement tools, units of
			measure, and level of precision appropriate for a
			given situation to find accurate real number representations for length, weight, volume,
			temperature, time, perimeter, area, surface area,
Science of Flight	KS	MA.8.3.2.K2	and angle measurements.
			knows and explains the difference between
			independent and dependent events in an
Science of Flight	KS	MA.8.4.1.K1	experiment, simulation, or situation.
			identifies situations with independent or
			dependent events in an experiment, simulation,
			or situation, e.g., there are three marbles in a
			bag. If you draw one marble and give it to your
			brother, and another marble and give it to your sister, are these independent events or
Science of Flight	KS	MA.8.4.1.K2	dependent events?
3			finds the probability of a compound event
			composed of two independent events in an
			experiment, simulation, or situation, e.g., what is
0	140		the probability of getting two heads, if you toss a
Science of Flight	KS	MA.8.4.1.K3	dime and a quarter?
			knows, explains, and uses equivalent
			representations for rational numbers and simple
			algebraic expressions including integers,
			fractions, decimals, percents, and ratios; rational
Intograting with			number bases with integer exponents; rational numbers written in scientific notation with integer
Integrating with Aeronautics	KS	MA.8.1.1.K1	exponents; time; and money.
- 121 01100000			computes with efficiency and accuracy using
			various computational methods including mental
Integrating with			math, paper and pencil, concrete objects, and
Aeronautics	KS	MA.8.1.4.K1	appropriate technology.
Integrating with			uses the Pythagorean theorem to determine if a
Aeronautics	KS	MA.8.3.1.K6.a	triangle is a right triangle,

Integrating with Aeronautics	KS	MA.8.3.1.K6.b	uses the Pythagorean theorem to find a missing side of a right triangle where the lengths of all three sides are whole numbers
Scientific Method(124-144)	KS	MA.8.2.4.K1.k	knows, explains, and uses mathematical models to represent and explain mathematical concepts, procedures, and relationships. Mathematical models include (frequency tables, bar graphs, line graphs, circle graphs, Venn diagrams, charts, tables, single and double stem-and-leaf plots, scatter plots, box-and-whisker plots, and histograms to organize and display data)
			knows and explains the difference between
Scientific Method(124-			independent and dependent events in an
144)	KS	MA.8.4.1.K1	experiment, simulation, or situation.
Scientific Method(124-			recognizes valid and invalid data collection and
144)	KS	MA.8.4.2.K2	sampling techniques.